

ASYKO®

Railway Power

Power electronics expertise since 1973

**Own technology, own design, own production.
Our philosophie, your benefit.**

- ° Reliable, versatile, durable performance
- ° Suitable in your railway applications incl. desired standards
- ° For special requirements - we do customizing
- ° Designed to operate in harsh conditions
- ° Power supply experts up to 15 kW

Product lines

- * DC/DC battery charger up to 22 kW (in cascaded operation)
 - * DC/AC 1/3 Ph inverter up to 15 kW
 - * AC/AC frequency inverter up to 7 kW
- * DC/DC converter 1 W up to >10 kW (in cascaded operation)

Overhead traction/catenary line

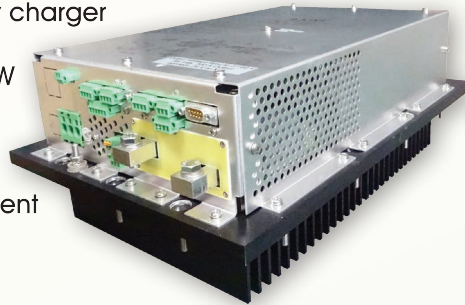
600/750/1200/1500 VDC

railway standards qualified acc. EN50163/EN50178/EN50124/
EN50155/EN50121-3-2/EN61373/EN45545-2/EN62368



battery charger
HBL.H
n x 6 kW

active inrush current
limiting ASD 01

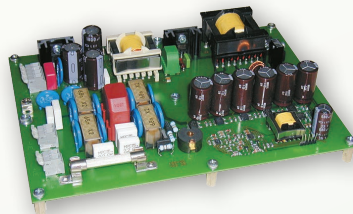


420 -1000 V continuously
1200 V/1 s
1960 V/20 ms 3000 V/2 ms
Active inrush current limiting
OV3/PD2/insulated
controlled run-up

NEW EQUIPMENT
battery charger n x 1,7 kW
600-750 VDC EN50163
24 V/ 60 A



battery charger
BLG.H 1,7 - 2 kW



DC/DC converter galv. isolated
50 W - 1500 W

battery charger with emergency running characteristics
n x (1,7 or 6) kW incl. multi-master-concept (current sharing-> controlled parallel operation, current splitting->battery charging incl. DC onboard supply)
3x relay contacts/monitoring
CAN Bus available
charging curve re-programmable (adaptable/programmable)
temperature compensation (PT1000/100/PTC/NTC)
Zero load capability
no auxiliary voltage required (internal housekeeper)
depot charger



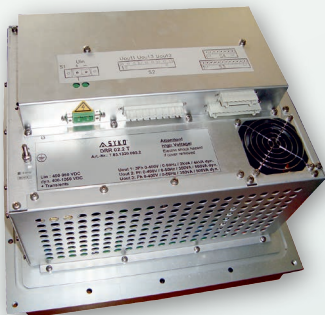
frontend power supply
galv. isolation nx6 kW
Uout 500-800 VDC

DC low-voltage supply
emergency/flat battery start up
generated directly
battery back up

1 Ph sine wave inverter
galv. isolated 2 kW

NEW EQUIPMENT
600/750 VDC EN50163
1/3 Ph 6 kW/dyn. 8-10 kVA

1/3 Ph sine wave inverter terminus supply (last station supply)
incl. inrush current limiting
drivers desk air conditioning supply (Kitchen stuff providing)



3 x 3 Ph triplex sine wave inverter non-isolated (double Regenerator) total ≥ 5 kVA

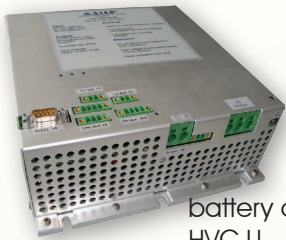


1/3 Ph sine wave inverter galv. isolated 6 kVA/12 kVA 4 ms-3 Ph
6 kVA/7 kVA 4 ms-1 Ph

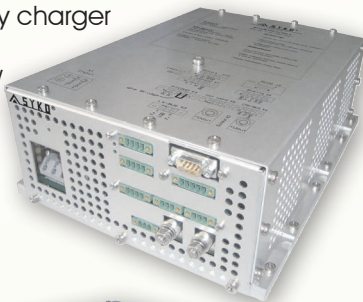
emergency ventilator
supply of 3 Ph ventilator, compressor asynchronous machines
fU control

GUI available for reconfiguration

Intermediate circuit/train busbar +Active PFC 1-2-3 Ph feed in AC/DC depot charger



battery charger
BLG.M
1,7 kW



battery charger
HVC.U
900 W



battery charger HBL.S
n x 6 kW
forced air cooling
option: heatsink for water
cooling available



battery charger HBL.S n x 6 kW
base plate heatsink
water cooling integration

200 - 850 VDC/dyn. 1050 V
160 - 330 VDC/dyn. 550 V
Active 3 Ph PFC with 115/400/480 VAC
50-800 Hz
1-2 Ph 115/230 VAC 50/60 Hz
incl. emergency running charact.

battery charger n x 1,7-6 kW
incl. multi-master-concept (current
sharing->controlled parallel operation,
current splitting->battery charging incl.
DC onboard supply)
3x relay contacts/monitoring
CAN Bus available
IU charging curve (programmable)
temperature compensation-(PT1000/
PTC/NTC)
Zero load capability
no auxiliary voltage required
(internal housekeeper)

NEW EQUIPMENT
Active 1/2/3 PFC Rectifier
up to ≥ 10 kW
Redundancy on 3Ph (380-480) VAC



UIC 550 transients up to 12 kV/1 ms
up to 80 mm isolation characteristics
active PFC/partial discharge resistant

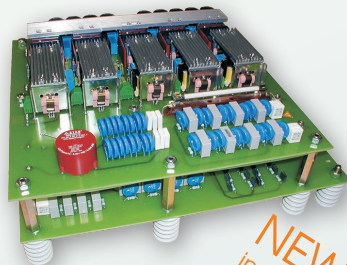
1000 V/16,7 Hz 6 --> 3Ph 400 V/50 Hz/
6 kVA/dyn. 8 kVA/fU control

UIC 550
(680 - 5050) VDC +16,7Hz+
50 Hz/incl. PFC/sine-rectangle-tra-
pezoid/up to 600 W

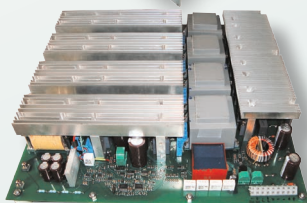
**Emergency/
flat battery start up
battery charger**

1000 V/1500 VAC 16,7-50 Hz
1500 VDC/3000 VDC
3000 VAC 50 Hz (optional)

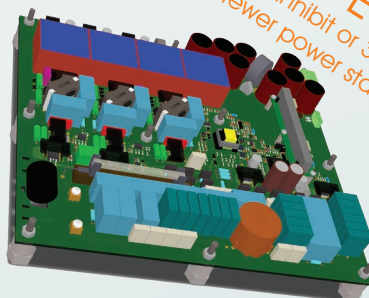
3*3 min or inhibit function
output power 40 W - 6000 W
onboard installation



NEW EQUIPMENT
incl. Inhibit or 3x3 min
fewer power stages, same power



frontend n x 1 kW to
UZK ca. 600 VDC



UIC.V/UIC.D: 700 VAC - 5150 VDC
incl. Inhibit or 3*3 min/active PFC

1 or 3 Ph battery inverter

emergency ventilation 3 Ph

1 Ph emergency supply 230 V

Laptop Supply



IP6k9k-1 Ph 230 VAC 550 W/ dyn. 700 W
brandnew: 1500 W/dyn. 1800 W

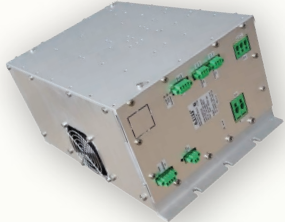
safety concept
isolation monitoring

NEW EQUIPMENT
very wide input range
(16 - 154) VDC/1 Ph 230 VAC/
150 W

24/36/72/110/220 VDC -30/+40%
150 W/dyn. 180 W/1Ph
500 W/dyn. 700 W/1 Ph
1000 W/dyn. 1400 W/1 or 3 Ph
2000 W/dyn. 2800 W/1 or 3 Ph
3000 W dyn. 3900 W/1 or 3 Ph

high efficiency
synt. sinus $< \pm 1,5\%$ THD
onboard installation
option: 1-3 Ph isolation
monitoring available
qualified acc. **EN50155**

3 Ph AC frequency inverter



battery inverter 1 Ph or 3 Ph
1000 W/dyn. 1400 W (115 - 460) VAC



battery inverter 1 Ph or 3 Ph
3000 W/dyn. 3900 W (115 - 460) VAC AC/AC 5 kW/dyn. 8 kW

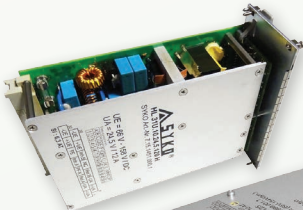


battery inverter 1 Ph or 3 Ph
2000 W/dyn. 2800 W (115 - 460) VAC

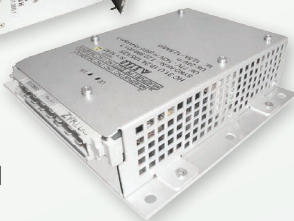
DC/DC converter

system tested

capable/qualified acc. EN50155



150 W/ dyn. 200 W
+300 W
19" and wall
mounting



600 W dual
output avail-
able incl.
hold up time



300 W
19" and wall
mounting

24/36/72/110/220 VDC

SELV output
active hold up time
print mountable boards avail-
able up to 50 W



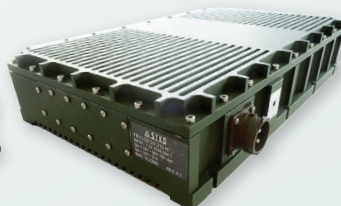
1700 W
wall mounting

DC onboard battery network
stabilisation (**regenerator**)

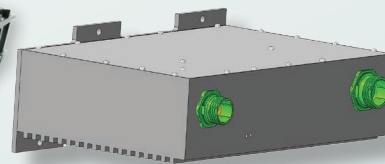
qualified acc. **EN50155**



3000 W fixed output and
starter battery charger



IP67, 500 W incl.
hold up time



NEW EQUIPMENT
525 W/IP67 incl. HF/LF EMC filter
(200-600/400-900) VDC
26 V/20 A



180 W
5 independent
output voltages